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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,692	01/14/2002	Hans Rudolf Muller	EPROV 17	8615
23599	7590	09/13/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			BERCH, MARK L	
			ART UNIT	PAPER NUMBER
			1624	

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,692

Applicant(s)

MULLER ET AL.

Examiner

Mark L. Berch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 29-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 29-37 is/are rejected.
- 7) ☒ Claim(s) 38-42 is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13, 17, 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Replacement of C with -N- is impossible (claim 6). That would give a N with just two bonds; N must have at least three. The traverse is unpersuasive. Applicants state that the unaccounted for bond is to hydrogen. In that case, it must be written as NH, not N. The PTO will not read any unexpressed limitations into claims.
2. The term "tertiary phosphane" is indefinite. The reference is noted, but does not suffice. There are three problems 1) what is intended for n? 2) What are the substituents --- the term "tertiary" only counts the number of bonds to things other than H; it does not say what the bonds are attached to. 3) How does "tertiary" work? Is it a) there are exactly three substituents b) there is at least one P atom with 3 bonds c) there is at least one P with two additional substituents d) every P has 3 bonds. For example, (methyl)₂P-P(methyl)-P(methyl)H would qualify under b) and c), but not a) and d). H₂P-P(methyl)-PH₂ would qualify under b) but none of the others. The choice (methyl)PH-P(methyl)-P(methyl)H would qualify under a) and b) but not c) or d). Would P(PH₂)₃ qualify? The traverse is unpersuasive. The inability of applicants to answer the questions presented is clear evidence that the claim language is indefinite. It is not at all clear how tertiary would work in cases where

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there is more than one P atom, and the remarks simply do not address the question at all. The examiner has set forth four different ways that it could be understood in the context of more than one P atom (a, b, c, and d), and applicants have not set forth which of these is correct. Instead, the remarks just refer to "a single central atom" despite the fact that when there is more than one P, as there is in "phosphane", there is no "single central atom".

3. In "tertiary phosphine" in e.g. claim 1, what are the substituents --- the term "tertiary" only counts the number of bonds to things other than H; it does not say what the bonds are attached to. Likewise tertiary amine group. The traverse is unpersuasive. Applicants state, "... hydrogen atoms bonded to a single central atom are replaced" -- which leaves indefinite what they are replaced with. Instead, applicants discuss the question of excluding inoperative embodiments and other enablement issues. This is not an enablement rejection. Other aspects of the response appear to be contradictory. Under point 2), the remarks refer to the substituents as being e.g. "halogen atoms, hydroxy groups", although it is not clear how one would know that these were intended. But in point 3), Applicants state, "... the reasoning from above applies; but here, the definition states that the substituents are hydrocarbon groups." What definition? And how can "halogen atoms, hydroxy groups" be reconciled with "hydrocarbon groups" -- these are different. Halogens are not hydrocarbon groups.
4. The term in claim 32 is unclear. What exactly is this? An imine is normally a compound with C=N structural feature, but it is not clear where the P would be involved. Is it attached to the C? To the N? Applicants need to draw out what this

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looks like. The earlier traverse was unpersuasive. Two examples, of nearly identical compounds, do not answer the question. For example, in both cases, the imino is indirectly attached. Is direct attachment, e.g. $P(HC=NH)_3$ or $RP=C=NH$ permitted? These are both bound via the Carbon --- would binding via N be permitted, e.g. $ABP(-N=CH_2)$? Can the imine provide two of the three tertiary pieces e.g. $AP(-CH_2-C=N-C_2H_4-)$. If applicants cannot draw out a generic structure of this, the term must be deemed unclear. The most recent traverse is also unpersuasive. Applicants state that "a generic structure could easily be made", but none was actually tendered. Applicants state "No direct bonding of the imin group to the P is required..." but the question was whether this was permitted, given that the examples present did not have it.

5. In claim 17, what is a "bridging group"? This term says where it is, but not what it is. The traverse is unpersuasive. There is no guidance as to what the nature of the bridge is, only where it is.

6. Phenyl appears twice on the last line of claims 35 and 37.

Claims 1-2, 4, 8-19, 29-32, 34-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of a "compound", which replaces the earlier "derivatives", is unclear. What qualifies as a compound and what does not? If the 4-oxo were instead thioxo, or $=NR$ or dihydrogen, or dimethyl, or removed, etc, would that still qualify? If the 2-amino group were dimethylamino, or nitro, or halo, or were removed, would that be a derivative? If an additional ring were fused onto the core (e.g. at the 6,7 positions or

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cyclized via the 2-amino group and some other position), or one or the other ring were opened up, would that be a derivative? Would a metal complex of pterin qualify? Could any substituent at all appear at the 3-position? The traverse is unpersuasive. Applicants point out that "Numerous synthetics and naturally occurring pterin and pterin derivatives exist." The problem is not the existence of such compounds, it is the unknown line between compounds that fall within the claim and those which do not. The issue here is not whether or not the claim "may be broad", as the examiner has not raised the issue of breadth. It is not clear whether the new term "compound" is supposed to be broader, narrower or of the same scope as "derivative".

Claim Objections

Claims 38-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Berch whose telephone number is 571-272-0663. If you are unable to reach Dr. Shah within a 24 hour period, please contact James O. Wilson, Acting-SPE of 1624 at 571-272-0661. The examiner can normally be reached on M-F 7:15 - 3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mukund Shah can be reached on (571)272-0674. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0198.



Mark L. Berch
Primary Examiner
Art Unit 1624

September 9, 2004